

LISTING OF AMENDMED CLAIMS

The listing of claims below replaces all prior versions and listings of claims.

Claim 1: (Currently amended) A method for use in managing data in a database system, comprising:

receiving a request to perform an operation on a set of target data residing in the database;

executing the operation in the database on the set of target data; [[and]]

~~at some point after execution has begun~~during the execution of the operation,
placing an initial lock on the target data to prevent concurrent execution of [[other]] at
least one operation[[s]] on the target data[.]; and

during the executing of the operation, placing a final lock on the target data at a
level that prevents concurrent execution of a larger set of operations.

Claim 2: (Canceled) The method of claim 1, comprising placing an initial lock on the target data at a level that prevents concurrent execution of at least one operation and, at some point after execution has begun, placing a final lock on the target data at a level that prevents concurrent execution of a larger set of operations.

Claim 3: (Currently amended) The method of claim [[2]]~~1~~, where the initial lock allows concurrent execution of operations that involve reading the target data.

Claim 4: (Currently amended) The method of claim [[2]]~~1~~, where the final lock prevents concurrent execution of all operations on the target data.

Claim 5: (Currently amended) The method of claim [[2]]~~1~~, further comprising allowing a user to specify the type of lock initially placed on the data.

Claim 6: (Original) The method of claim 1, where the operation is one of the following types: a COLLECT STATISTICS operation, a CREATE INDEX operation, and an ALTER TABLE operation.

Claim 7: (Currently amended) A database system comprising:
at least one storage device;
at least one computing node configured to deliver data to and retrieve data from the storage device; and
a database-management component configured to:
receive a request to perform an operation on a set of target data residing in the database;
execute the operation in the database on the set of target data; [[and]]
~~at some point after execution has begun;~~ during the execution of the operation, place an initial lock on the target data to prevent concurrent execution of [[other]] at least one but not all operations on the target data[.]; and
during the executing of the operation, place a final lock on the target data at a level that prevents concurrent execution of a larger set of operations.

Claim 8: (Cancel) The system of claim 7, where the database-management system is configured to place an initial lock on the target data at a level that prevents concurrent execution of at least one operation and, at some point after execution has begun, placing a final lock on the target data at a level that prevents concurrent execution of a larger set of operations.

Claim 9: (Currently amended) The system of claim [[8]]], where the initial lock allows concurrent execution of at least one other operation on the target data.

Claim 10: (Currently amended) The system of claim [[8]]], where the subsequent lock prevents concurrent execution of all other operations on the target data.

Claim 11: (Currently amended) The system of claim [[8]]], where the database-management system is configured to allow a user to specify the type of lock initially placed on the data.

Claim 12: (Original) The system of claim 7, comprising multiple computing nodes and multiple storage devices, where each storage node is configured to manage storage of data on at least a subset of the storage devices.

Claim 13: (Currently amended) The system of claim 12, where the database-management system is configured to place [[the]] locks on a block of data that is spread across more than one of the storage devices.

Claim 14: (Original) The system of claim 7, where the operation is one of the following types: a COLLECT STATISTICS operation, a CREATE INDEX operation, and an ALTER TABLE operation.

Claim 15: (Currently amended) A computer program, stored on at least one computer-readable storage medium, for use in managing data in a database system, comprising executable instructions that, when executed by a computer, cause the computer to:

receive a request to perform an operation on a set of target data residing in the database;

execute the operation in the database on the set of target data; [[and]]

at some point after execution has begun, during the executing of the operation,

place an initial lock on the target data to prevent concurrent execution of [[other]] at least one but not all operations on the target data[.]; and

during the executing of the operation, place a final lock on the target data at a level that prevents concurrent execution of a larger set of operations.

Claim 16: (Cancel) The program of claim 15, where the program causes the computer to place an initial lock on the target data at a level that prevents concurrent execution of at least one operation and, at some point after execution has begun, placing a final lock on the target data at a level that prevents concurrent execution of a larger set of operations.

Claim 17: (Currently amended) The program of claim [[16]]15, where the initial lock allows concurrent execution of at least one other operation on the target data.

Claim 18: (Currently amended) The program of claim [[16]]15, where the subsequent lock prevents concurrent execution of all other operations on the target data.

Claim 19: (Currently amended) The program of claim [[16]]15, where the program causes the computer to allow a user to specify the type of lock initially placed on the data.

Claim 20: (Original) The program of claim 15, where the operation is one of the following types: a COLLECT STATISTICS operation, a CREATE INDEX operation, and an ALTER TABLE operation.

Claim 21: (Currently amended) A method for use in managing data in a database system, comprising:

- receiving an instruction from a user to perform a data-definition operation on a set of target data residing in the database;

- placing an initial lock on the target data at a level that allows at least one concurrent operation on the target data;

- executing the operation in the database on the set of target data; ~~[[and]]~~
during the execution of the operation, placing an initial lock on the target data to prevent concurrent execution of at least one but not all operations on the target data; and
~~at some point after execution has begun,~~ during the execution of the operation,

- placing a final lock on the target data at a level that excludes all other concurrent operations on the target data.

Claim 22: (Cancel) The method of claim 21, where the initial lock excludes at least some concurrent operations on the target data.

Claim 23: (Original) The method of claim 21, further comprising allowing a user to select the level of the initial lock.

Claim 24: (Original) The method of claim 21, where placing an initial lock on the target data includes placing one of the following types of locks on the target data: an ACCESS lock; a READ lock; and a WRITE lock.

Claim 25: (Original) The method of claim 21, where placing a final lock on the target data includes placing an EXCLUSIVE lock on the target data.

Claim 26: (Original) The method of claim 21, where placing an initial lock on the target data includes locking an entire table.

Claim 27: (Original) The method of claim 21, where receiving the instruction from the user includes receiving an instruction to perform one of the following operations: a CREATE INDEX operation, a COLLECT STATISTICS operation, and an ALTER TABLE operation.

Claim 28: (Canceled) A method for use in managing data in a database system, the method comprising:

- receiving an instruction to perform a MODIFY DATABASE/USER operation on a set of target data;

- initiating execution of the operation; and

- at some point during execution of the operation, concurrently executing another operation on objects within the targeted database or user.

Claim 29: (Canceled) The method of claim 28, further comprising maintaining an ACCESS lock on the target database or user and no locks on the immediate parent of the targeted database or user during execution of the MODIFY DATABASE/USER operation.

Claim 30: (Currently amended) A method for use in managing data in a database system, comprising:

receiving an instruction from a user to perform a data-definition operation on a set of target data;

placing an initial lock on the target data at a level that prevents at least one but not all types of concurrent operation on the target data;

initiating execution of the operation on the target data; and

~~at some point after execution has begun, during the execution of the operation,~~

placing a final lock on the target data at a level that excludes all types of concurrent operations on the target data.